Do Multinationals pay less?

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International Institutions and Multinational Enterprises

GLOBAL PLAYERS – GLOBAL MARKETS

EDITED BY John-ren Chen

INTERNATIONAL INSTITUTIONS AND GLOBAL GOVERNANCE

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INTERNATIONAL INSTITUTIONS AND GLOBAL GOVERNANCE

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INTERNATIONAL INSTITUTIONS AND GLOBAL GOVERNANCE

Edward Elgar
Cheltenham, UK • Northampton, MA, USA

Published by
Edward Elgar Publishing Limited
Glensanda House
Montpellier Parade
Cheltenham
Glos GL50 1UA
UK

Edward Elgar Publishing, Inc.
136 West Street
Suite 202
Northampton
Massachusetts 01060
USA

A catalogue record for this book
is available from the British Library

Library of Congress Cataloguing in Publication Data

International institutions and multinational enterprises: global players—global markets/edited by John-ren Chen.
p. cm. — (International institutions and global governance)
"The second international CSI Conference on 'Multinational Enterprises and International Institutions: Global Players—Global Markets' was held from 20th–22nd November 2002 in Innsbruck"—Preface.
1. International business enterprises—Government policy—Congresses. 2. International agencies—Congresses. I. Chen, John-ren. II. Series.

HD2755.5.I564 2004
338.8'8—dc22

2004047120

ISBN 1 84376 875 5

Typeset by Manton Typesetters, Louth, Lincolnshire, UK.
Printed and bound in Great Britain by MPG Books Ltd, Bodmin, Cornwall.

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Contributors

Professor V.N. Balasubramanyam, Professor of Development Economics, Department of Economics, Management School, University of Lancaster, UK.

Doctor Oliver Budzinski, Research Associate, Chair of Economic Policy, Philipps – University of Marburg, Germany.

Doctor Matthias Busse, Research Associate at the Hamburg Institute of International Economics – HWWA, Department of World Economy, Hamburg, Germany.

Professor John-ren Chen, Professor of Economic Theory and Econometrics, Centre for the Study of International Institutions, University of Innsbruck, Austria.

Professor Daniel Daianu, Professor of Economics, Academy of Economic Studies, Bucharest.

Professor John H. Dunning, Emeritus Professor of International Business, University of Reading, UK.

Doctor Francesca Gastaldi, Research Associate in the Department of Economics, 'La Sapienza' University of Rome, Italy.

Professor Hans H. Hinterhuber, Professor of Strategic Management, Head of the Department of Management at the University of Innsbruck, Austria.

Doctor Klaus Liebscher, Governor of the Austrian National Bank – Oesterreichische Nationalbank.

Professor Kurt Matzler, Professor of Marketing and International Management at the University of Klagenfurt, Austria.

Doctor Maria Grazia Pazienza, Research Associate in the Department of Economics, University of Florence, Italy.

Professor Harald Pechlaner, Foundation Professor of Tourism, University of Eichstätt, Germany.

Doctor Mike Peters, Assistant Professor, Centre for Tourism and Service Economics, University of Innsbruck, Austria.

Brian Portelli, Research Fellow at the Centre for Technology, Innovation and Culture, University of Oslo, Norway.

Doctor Birgit Renzl, Assistant Professor at the Department of Management, University of Innsbruck, Austria.

Professor David Sapsford, Edward Gonner Professor of Applied Economics, Chairman, Economics Division, Management School, University of Liverpool, UK.

Professor Karl Socher, Emeritus Professor of Political Economy, Centre for the Study of International Institutions, University of Innsbruck, Austria.

Professor Klaus Weiermair, Professor and Director, Centre for Tourism and Service Economics, University of Innsbruck, Austria.

Preface

International institutions have contributed a great deal to the development of a free access to global markets, giving chances for economic development and reduction of poverty, especially to developing countries and countries in the process of transformation to market economies. Multinational enterprises (MNEs) have become the most important actors in this global market of goods and capital.

Many activities of the MNEs have had positive effects on the developing and transforming countries, but some negative effects on the economy, on income distribution, other social aspects and on the environment in these countries have been observed. In some of these cases, national states are not able to control and avoid these negative effects. The question arises whether international institutions can play a role in this important task.

In this discussion there are many divergent interests of governments, bureaucrats, manager of MNEs, NGOs and special interest groups. Therefore the Centre for the Study of International Institutions at the Faculty of Social and Economic Sciences of the University of Innsbruck has tried to bring together economists doing research in this field on a scientific basis in a conference. The aim of the conference was to discuss, how far the management of MNEs takes into account negative aspects of their activities, how national states or international institutions control the activities of MNEs and how the role and strategies of international institutions could be changed to minimise the negative effects without hampering the positive effect of MNEs.

The second International CSI Conference on 'Multinational Enterprises and International Institutions – Global Players – Global Markets' was held on 20–22 November 2002 in Innsbruck. Selected contributions of this conference on international institutions are published in this book.

We are very indebted to the Oesterreichische Nationalbank for financial assistance to set up the Centre for the Study of International Institutions, which would not have been possible without this support.

We are also very grateful to the Österreichische Forschungsgemeinschaft (Austrian Research Association) who supported the second Conference on International Institutions and financed this publication.

We thank Masmedia Publishing, Graphic and Business Services of Zagreb, Croatia for granting permission to Professor Daniel Daianu to reproduce here

5. Do multinational enterprises pay less tax? Empirical evidence for Italy

Francesca Gastaldi and Maria Grazia Pazienza

INTRODUCTION

In recent years, multinational enterprises (henceforth ME) have increased their role in more integrated economic systems. As a consequence, international taxation issues have attracted the attention of both economists and policy makers. This focus initially originated in the United States, Canada and the United Kingdom, where both the external attitude of firms and the amount of direct investment flows have been substantial. Recently, following the process of creation of the European Union (EU), these issues have become more important also in Europe and in Italy. In the EU, direct investment (DI) outflows tripled, from 1.5 per cent of GDP in 1993 to 4.6 per cent of GDP in 1998. Inflows more than doubled, from 1.2 per cent of GDP to 2.8 per cent of GDP. In the same period, in the United States, outflows increased from 1 to 1.5 per cent of GDP, while inflows increased from 0.6 to 2.1 per cent of GDP.

This sharp change has raised the question whether the corporate taxation originally introduced in a more regulated financial environment with limited international capital mobility may still be appropriate. Various factors may affect the answer: (a) how taxes affect savings and capital formation in different countries; (b) how they affect the choice between debt and equity; (c) how more integrated systems have increased the opportunity for tax avoidance and/or tax evasion; and (d) the role of the tax systems in leading international competitivity. Theoretical models have been developed on these different topics, yet the answer needs some empirical evidence. International institutions are added to this picture, institutions which, without actually trying to regulate the situation, attempt to establish a basis upon which countries may carry out collaborative efforts amongst themselves.

Empirical studies on corporate taxation have mainly dealt with the effects of tax policy in different countries and with the way tax incentives may affect the international allocation of capital. Results are often uncertain, not least because of lack of data and unclear theoretically grounded tax indicators.

Some recent literature following the methodology used by King and Fullerton (1984), has calculated 'effective tax rates' to analyse the effects of tax incentives on international investments. Other methods, mainly based on tax law prescriptions, describe tax avoidance opportunities left to ME.

According to the 'eclectic' approach *à la* Dunning (1971), the relation between ME economic decisions and tax variables can be represented by a three-stage tree.[1] In the first stage, external-oriented firms decide whether to export or implement a new plant abroad. This kind of choice can be performed as a cost–benefit analysis 'OLI' (ownership, localisation, internationalisation), where the tax variable can be easily included. The abundance of empirical studies on this topic have led to ambiguous results mainly due to the weak role of tax variables in explaining the decision of how to cope with firm internationalisation.

In a second stage, when the decision to implement abroad has been taken, the firm decides where to locate. Also in these cases, many authors have argued that productive process characteristics are more important in explaining location: that is, the probability of either horizontal (market shares) or vertical expansion (raw material provisions) is more important than corporate tax variables. If anything, it is the whole set of institutional variables (tax systems, infrastructure endowment, tax compliance, specific country risk and so on) that might affect location.[2]

In a third stage, when ME enterprises are already located, tax variables may possibly affect ME economic decisions. There is some evidence that this influence is not negligible, especially on investment decisions and the financial structure of the firm, including the dividend policy.

This chapter deals with the third stage, looking for tax minimisation by ME. This issue is important from the point of view of a 'within-border' unfair competition among domestic and ME firms located in the same country. ME can make use of different types of tax planning strategies than those available to domestic firms because of tax differentials between countries. Focusing on textile and clothing companies in Italy, the aim of this chapter is to determine whether there are significant differences in the tax burden of multinational companies (corporations located in Italy but controlled by foreign corporations and Italian corporations controlling foreign corporations) and domestic companies. Some preliminary evidence of profit shifting behaviour is discussed, suggesting a more systematic and thorough approach.

The chapter is organised as follows. The first section describes, in general terms, the problem of unfair tax competition between countries used to attract multinational company tax bases. The second section stresses the role of international institutions. The third section overviews some aspects of ME taxation that are more likely to affect the profit shifting process. Then the fourth section discusses the most relevant features of empirical literature that have sought out

evidence of profit shifting. The fifth section provides some evidence that ME actually pay less taxes than domestic firms located in the same country, using information derived from accounting and tax data at firm level and following a micro backward-looking methodology to derive implicit tax rates.

MULTINATIONAL ENTERPRISES AND THE PROBLEM OF HARMFUL TAX COMPETITION

The globalisation process of the economy has caused more linkages between different tax systems. The difference in tax structures make for a different tax burden, depending upon the country in which the tax base is located. Countries having a more advantageous tax regime may attract investors to locate their business activity. In this case, however, their choice is still conditioned by the specifics of the input involved as well as by the fact that there is no perfect way to substitute investments in different countries, owing to the different level of public services offered (a balance between taxation and public expenditure).

This problem takes on even more relevance in regard to ME who, regardless of the location of their productive activity, can more easily place the various balance sheet items that make up their tax base in more fiscally convenient countries. By doing so, they are able to avail themselves of the differences existing (although dealing in a single market) in tax rates and criteria for establishing tax bases and tax incentives. In other words, globalisation is having, above all in reference to ME, a 'positive' effect, guaranteeing ME the chance to lessen the global tax burden by locating business in countries having a higher level of services and directing positive components of the tax base to countries with lower taxation.

As far as the reaction of individual countries is concerned, the more recent European tax reforms, aimed at the lowering of tax rates and broadening of tax bases, were actually influenced by globalisation itself and the subsequent need to lessen the impact of distortions caused by fiscal variables. The process of international integration urged individual countries to 'reconsider' both their national tax systems and their level of public expenditure. This was done for the purposes of identifying the best fiscal 'setting' for investments. At the same time, both nationally and internationally, a heated theoretical debate was ignited regarding the alternatives of tax harmonization (or, more realistically speaking, coordination) of tax bases and rates, and tax competition. For these two hypotheses, characteristics of efficiency, equity and transparency of corporate tax systems are weighed.[3]

Some authors (see Musgrave, 1972) argue that tax competition generates negative effects on wealth as well as causing some distortion in the choices of

the public administration, thus resulting in excessive costs for efficiency and equity. Tax competition produces beggar-my-neighbour politics, which results in a level of tax rates on income from capital that are lower than what would be advantageous, with this leading to significant consequences.[4] In particular, the capacity for public funding is reduced, and this may lead to a 'downsizing' or worsening of collective services. Also the displacing of the tax burden to the least mobile tax bases lowers the fairness of overall levying of taxes, thus creating ties to the sustainability (both political and financial) of redistributive policy. And, lastly, adverse effects on employment are cited by critics of tax competition, deriving from the long period of tightening of taxation on labour. On the other hand, tax competition is viewed positively within economic theory on tax federalism. From this perspective, we postulate an analogy between the effects of efficiency of the mechanism of competition within a 'product' market and within an 'institutions' market: 'competition between governments should produce, within the public sector, the same type of benefits that are generally associated with competition between private companies' (McLure, 1986). Countries compete to attract resources and tax bases through offering institutions; this should lead to an optimum arrangement in both levying taxes and in the offer of public services.[5]

Another defence of tax competition (Buchanan and Tullock, 1962; Brennan and Buchanan, 1980) is grounded in the economic theory of political behaviour. Tax competition, in this context, takes on a beneficent role of external ties to the 'leviathan' behaviour of governments, or rather posing limits to potential 'failure of government'. Indeed the tendency to increase taxes in an inefficient manner is punished by a loss of tax base and income, limiting the size of the public sector and the flawed behaviour of governments.[6]

Currently, different countries operate under a regime of tax competition. The OECD Committee has acknowledged that there are no specific reasons why two countries should have the same level and structure of taxation. Levels and structures of taxation, in spite of the implications that these hold for other countries, are basically political decisions taken at a local level by national governments.

Since the inception of the EU, the subject matter of taxation has always been the exclusive prerogative of the member states. It is considered an integral part of national choices and preferences regarding economic and social politics that lie outside the scope of the Convention and EU policies. An exception is established, however, by the rules of the internal market: generally, fiscal measures that create obstacles to the free circulation of goods, services and/or capital, or measures which might distort the rules of competition, are not permissible.

The important question remains how to ensure that competition between different regimes responds to needs for efficiency. Policies of taxation that

are mainly or exclusively motivated to attract financing or other mobile tax bases, as well as avoidance behaviour carried out by enterprises, could cause undesirable distortions to international trade and investments and, at the same time, lower global wealth.[7] These considerations have led to the development of the concept of harmful tax competition as a specific issue dealt with in cooperative agreements stipulated to do away with specific distorting effects and behaviour of both taxpayers and of governments attempting to distinguish between fair and unfair tax competition.

On the one hand, the definition of unfair or harmful competition seems to be concerned with the protection of the reasons of the states, and emphasis is placed on the erosion of the national tax bases that the said procedures produce. On the other hand, from the point of view of the company, the problem of harmful tax competition mostly limits itself to the distortions that the policies could cause to the free competition of companies, bringing about, for instance, changes in prices involved in international trade and thus, guaranteeing through the lowering of the tax burden, funding linked to the operativity of enterprises. From this perspective, it is undeniable that national companies have different interests than ME might have in seeking out solutions to the problem of harmful tax competition. Indeed it is clear that any eventual poor functioning of the market tends to harm more the enterprises that, although being open to the international market, carry out their own activity in a national sphere. In contrast ME may avail themselves, to their own advantage, of tax competition, also harmful competition, among the different national systems. This reduces their tax burden and increases their competitivity in the market. Enterprises that mainly operate in a domestic market may be subject (considering equal benefiting from public services) to a greater tax levy than the amount of tax levied on non-resident enterprises. This is due both to fiscal provisions such as 'ringfencing' and, implicitly, to the wider selection of tax avoidance procedures available to ME.

Distinguishing between fair and unfair, or harmful, tax competition is a whole other issue. If an investor who is a resident avails himself of the benefits of a public service in their own country and, at the same time, manages to avoid all taxes by domiciling for fiscal purposes all profit in a 'tax haven', it is not hard to arrive at the conclusion that we are dealing with an example of unfair tax competition. Both the investor and the host country act as a 'free rider', thanks to finance operations that are specifically designed to avoid taxes in the first country.

The case of ME is not as obvious. ME work in several countries, with different tax rates for direct and indirect taxation. They try to achieve the best conditions also for (along with the other aspects of their business) aspects regarding tax burdens: this, in itself, as tax planning, cannot be considered unfair or harmful.

ACTIONS FROM INTERNATIONAL INSTITUTIONS

Under the current regime of different tax systems, actions taken by individual countries are not always helpful. In many countries, tax authorities may effect adjustments to earnings of a resident company, attributing to the transactions contested for tax purposes a transfer price that is in line with the market values. Moreover, often, intra-group transactions are not comparable because of their differences from normal market transactions. Thus this principle is difficult to apply. Competitive adjustment procedures (that are not coordinated) affected by individual countries may also result in cases of double taxation.

In order to adopt fiscal measures and decisions there must be a unanimous decision of the European Union Council (cf. articles 93–5 of the EC Treaty).[8] Article 94 provides for the possibility of directives for coordination and approximation of national tax provisions 'that have a direct effect on the internal market'. The directives for coordination leave the national legislation intact, but set rules for areas of contact and interfacing between national systems for cross border activity. The two main examples in this area are directive 90/435, aimed at eliminating double taxation on dividends, and directive 90/434, which regulates mergers, contributions, splits and other transactions aimed at altering company structure, allowing for the effecting of these transactions under a tax neutral regime.

One example of a cooperative reaction in this area is the convention regarding transfer pricing. This convention has established an arbitration procedure whose objective is to inhibit cases of double taxation that are not covered by the network of existing bilateral conventions. The convention, adopted by the European Council in 1990, entered into force on 1 January 1995 and, after being ratified by the member states, provided that an enterprise could take recourse against the tax authorities in charge of levying taxes on the company profits, by filing a procedure, initially dealing in information and conciliation, and later in arbitration, which must conclude with the elimination of the double taxation involved.

In the EU, coordinated activities on a large scale have, as of today, only been encountered in theoretical studies which have brought about proposals that are yet actually to be applied to a real case study. This, however, is if one excludes the reaction of industrial countries to the strategies of unfair tax competition practised by tax havens, or rather, what is called the CFC (Controlled Foreign Corporations) legislation. The CFC legislation is one example of a non-cooperative solution to the problem of different tax systems interfering with each other. The legislation establishes that the resident holding company be taxed on profit 'produced' (even if said profit has not yet been distributed) by controlled companies located in countries having privileged

tax systems (tax havens). This kind of intervention does, however, cause conflict that is difficult to eradicate between the taxation authority of the country that adopts the norm and the authority of the (presumed) tax haven and the other countries having competitive CFC regulations. This occurs above all when there are existing international agreements between these countries aimed at avoiding double taxation.[9]

Almost ten years after the presentation of the Ruding Report, in October 2001 the European Commission published a new report (*Toward an internal market without tax obstacles)* indicating what the EU action should be in regard to fiscal issues for enterprises. The proposals therein are a product of the difficulties encountered in creating a European tax legislation (given the fact that there must be a unanimous vote of the committee and adherence to the principle of subsidiarity) as well as the limited success in applying the provisions suggested in the Ruding Report.

The opinion of the Commission is that the existence of 15 different tax regimes makes for a substantial obstacle in achieving a single market. The Commission deals with this issue by proposing, on one hand, actions that are 'aimed' (in the short term) at eliminating obstacles and, on the other hand, 'global actions' (in the medium to long term) meant to eliminate the factors that result in hindrances to cross-border business activity. Some of the 'aimed' actions are (a) extending of the directive regarding mergers; (b) adjustment of the directive regarding parent–subsidiary companies to eliminate the withholding tax and to levy tax on profits only on the company producing said profits and not on the company receiving it: a substantial change, mainly in extending the access to this directive also to shareholdings with quotes that are lower than the current 25 per cent limit; (c) the proposal of a new directive on the cross-border offsetting of losses; (d) a directive (the draft has already been drawn up) regarding royalties and interest and the taxation of these only in the country of the beneficiary receiving them, thus eliminating the application of a withholding tax in the country from which they are distributed; (e) a permanent joint forum on transfer pricing, including member states and enterprises; (f) the submitting of a petition regarding the need to adapt the conventions against double taxation to a standard model that would render them adherent to common principles and thus avoid a mix of individual tax systems.

With a medium to long-term objective, the Commission initiates a debate on whether to adopt a consolidated tax base at a European level. This would allow for the calculation of taxable income of multinational groups by referring to only one set of legislation. Basically this would be an attempt to deal with the problem (currently one issue that ME must deal with) of tax compliance formalities required by the different fiscal systems in the countries in which business activities are located. The Commission, however, permits

each individual country to decide on its own tax rate to apply to the relevant taxable income, thus granting countries some degree of flexibility for tax competition. In order to reach this objective an efficient and politically feasible route must be found. In particular, member states must reach an agreement on two matters: how to determine the tax base for enterprises operating in different countries, and what mechanism to adopt for the division and attribution of taxable profits to countries. The solution of the first issue is a main priority and is still in the drafting phase.

The Commission have identified four systems. The first of these is a European company income tax (EUCIT). This system provides for the creation of a tax to be levied at a European level. A part, or the whole, of the said tax could go directly to the EU. Originally conceived as an obligatory regime for large ME, at the start it may be seen as an optional system. The idea that all member states may waive all, or even part, of their decision-making power on the levying of corporate income tax does, however, seem to be quite unlikely.

The second system is home state taxation (HST): this provides for a tax base to be calculated according to the tax regulations in the country in which the main headquarters of the company are located. It is conceived as a non-obligatory regime that a company operating in a different country may choose to adopt. This method does not require that member states establish common rules, in that, in order to implement the system, one only needs to have the mutual recognition of the taxation systems involved (although each country would have to recognize 15 systems and, with the prospect of extending the EU, even 25 systems). This has been defined as a route that would be politically feasible and one which should not present any particular obstacles, given that it would not be an obligatory regime for companies. From another point of view, however, the possibility should not be underestimated that more fierce (and likely harmful) competition may result, in contrast to current competition in determining tax bases in several countries having a negative outflow on the income of those companies belonging to enterprises that are part of multinational groups (the risk is that of ending up with very low tax bases or even bases reaching zero). ME tax bases could tend towards a homogeneity, yet at a lower than advantageous level, and thus the problem of arriving at a more substantial agreement setting a limit, even partial, to the decision-making power of each county would only be postponed up to the moment in which this competition is perceived as harmful. Lastly, this method would not solve the potential problem of companies that, although they may be operating in the same country and in the same sector, could be subject to very different tax regimes such as to alter fair competition among companies.

The common base taxation (CBT) system proposes the creation of harmonised rules at an EU level for the purpose of determining a single European

tax base. This regime would also be optional. From a technical point of view, CBT offers two advantages over HST: (i) in each member state one would only need to be aware of the EU regulations and not the regulations of the other 14 member states; (ii) a starting point would be created for the establishing of European tax norms. The most relevant obstacle that CBT poses is undeniably the difficulty of defining a common tax base, and obtaining the agreement of all member states. This difficulty is exacerbated by the fact that, currently, each country has a series of more or less extensive 'tax expenditures' or rather, advantages connected to the country they belong to (such as accelerated amortisations). In establishing a common tax base it would be difficult to 'sum up' each individual tax advantage. The system would end up generating a more extensive tax base than the actual tax base existing in each member country. In this case, enterprises would have no interest in choosing a less favourable regime, unless the different countries were to lower their tax rates. This would, however, create repercussions (not considered in the EU plans) also in the tax levy on domestic companies. The problem remains, as is the case with HST, of a coexistence of determining different tax bases, in the same country, for ME who have opted for the EU regime and the domestic companies.

Finally there is the harmonized single tax base in the EU: this system provides for the progressive harmonisation of national directives for determining the corporate tax base. This proposal would be enacted over time: the 15 systems of determining the tax base would be gradually harmonised, but this harmonisation would involve all companies and not only those companies dealing in cross-border activity. It is likely that this method would come up against negotiating difficulties similar to those of the CBT. However, it would bring about a more direct and less costly transition: (a) in solving the problem of taxation of ME in Europe; (b) in lessening, as compared to the other methods, the added costs and requirements deriving from operating in more than one country, thus improving the conditions of international competitivity, (c) in rendering tax competition more transparent among countries in that it would be exclusively confined to setting of tax rates, and (d) in improving competition between companies on a national level as well as internationally. Furthermore this seems to be the method that is most in line with the short-term 'aimed' provisions mentioned above. This is because the said provisions tend (albeit in reference to certain institutions) to harmonise the legislation of different countries.

THE INFLUENCE OF TAXATION ON ECONOMIC–FINANCIAL DECISIONS TAKEN BY MULTINATIONAL ENTERPRISES

In an international context, income produced by companies may be subject to different tax systems, and companies located in certain countries may be eligible for certain tax benefits for which other companies located elsewhere are not eligible. Differences in taxes charged arise, not only during the setting of parameters for taxation (statutory rates, setting of tax bases and tax advantages), but also in determining the accounting profit. The flow of inter-company income is also subject to different and separate tax systems and, under the tax system of one country, there may be differential tax treatments established for income coming from foreign sources rather than internal sources. Given that each jurisdiction has the right to apply its own tax system, the tax burden of companies operating in more than one market is the result of a combination of the different companies which, at times, may be regulated by conventions between different countries.

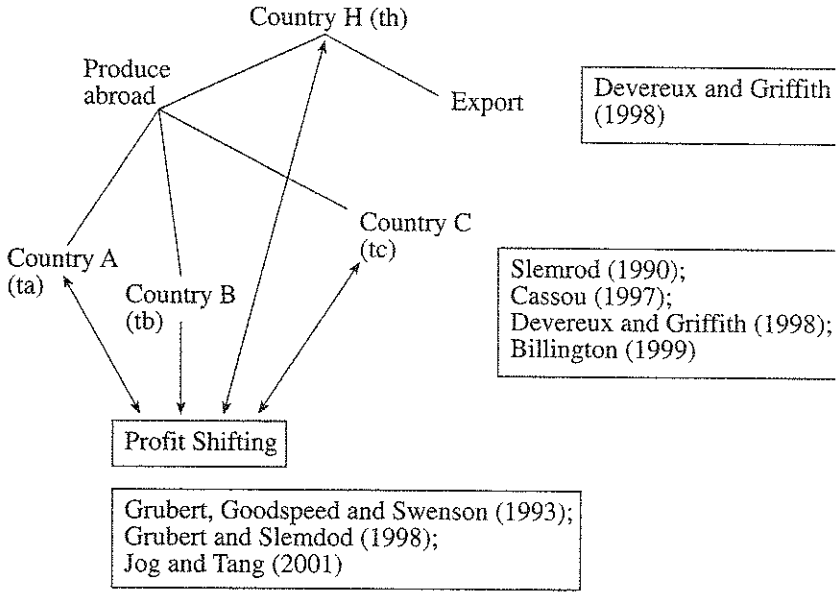
In an open economy, ME may avail themselves of differences in international taxation through operations of tax arbitration. There could be a specific interest in setting up a multinational company only for gaining from these opportunities. Here we recall the two main channels for lessening tax burdens: the choice of financial policy and the possibility of profit shifting within the different companies belonging to the same group, using transfer pricing.

The financial policies of ME are different from the policies of companies operating in a single market. The former have the possibility of benefiting from a wider choice of financing channels. The convenience of achieving financing through subsidiaries depends on the level of the tax rate, but also on the credit conditions in the different markets (the interest rates and other types of conditions) as well as on the method used by the parent company for financing. Considering the different combinations of these factors, the possibilities for tax arbitration are manifold.

When dealing in ordinary transactions between group companies (purchase of tangible and intangible goods and services, financial activity and allocation of common expenses such as research) ME may apply 'transfer prices' which allow for the lessening of tax burdens and the increasing of overall profit. In conditions in which there are no obligations imposed by the tax authorities, transfer prices between companies belonging to the ME are based on the tax differentials in the different countries in which they are located as well as on the different methods adopted to avoid the problem of double taxation.

A REVIEW OF THE EMPIRICAL LITERATURE

Empirical studies on ME economic decisions may be first distinguished according to the type of economic decision carried out by the ME (whether to produce abroad, where to localise, what to do when located: see Figure 5.1) and to the type of data used (aggregate data on direct investments or micro data). There is in fact a third category, represented by the kind of fiscal indicator used in the analysis (see Table 5.1).[10]



Note:
th = tax note in home country.
ta = tax note in Country A.
th = tax note in Country B.
tc = tax note in Country C.

Figure 5.1 A firm's decision tree: empirical literature

However, whether and how tax variables may affect ME investment choices is quite difficult to establish. Despite improved statistical methodologies and the development of new tax indicators, elasticity coefficients are often dispersed and not significant. In de Mooji and Ederveen (2001), reviewing the most important empirical studies on this topic, it is noted that 53 per cent of estimated elasticities are simply not statistically significant, while more than 4 per cent have a positive sign.[11]

Table 5.1 Classification of main empirical contributions according to type of data and fiscal indicator

Type of data	STR	EMTR	EATR	ITR
Macro: FDI time series	Billington (1999)	Slemrod (1990); Devereux and Freeman (1995)		Cassou (1997)
Micro: balance sheet or tax authority	Jog and Tang (2001)		Devereux and Griffith (1998)	Grubert, Goodspeed and Swenson (1993)

Notes: STR = Statutory tax rate, EMTR = effective marginal tax rate, EATR = effective average tax rate, ITR = implicit tax rate.

Using the three-stage tree in Figure 5.1, it is possible to note that the empirical evidence shows tax variables do not affect clearly the first two stages (whether to implement and where), while a relatively stronger impact may be exerted on the choices of already located ME.

With empirical evidence concentrating on the influence of taxation on decisions taken by companies already set up, the focus of analysis is not the level of investment, but rather on financing procedures, distribution of profit or, more generally, the activity of profit shifting which might result in a foreign-owned company being subject to a lower tax burden than a domestic company.

Grubert and Mutti (1991), with a pioneering paper on the topic, find a negative relation between tax levels of the host country (measured by both statutory and effective tax rate) and profitability using a cross-sectional data set (1982) of US subsidiaries for 33 countries.

Grubert *et al.* (1993), having noted that the ratio between gross profits and the total asset was 0.58 for foreign-owned firms and 2.14 for domestically owned firms in 1987, attribute the low profitability of foreign subsidiaries in the USA to many factors: manipulated transfer pricing, tax avoidance, start-up costs, mergers and acquisitions, differences in the cost of capital (lower for foreign firms) and so on. All these factors lead the authors to conclude that there are clear indications of profit shifting in foreign-controlled firms, even though a relevant share of profit differences is attributable to asset values and exchange rate movements.[12] Furthermore there is evidence that profitability does not depend on the home country, nor is it true that the home country adopts either higher or lower levels of taxation as well as either tax credits or tax exemptions.

Grubert (1997) supports the differential level of tax rates between foreign-controlled and domestic firms, while at the same time giving less weight to

profit shifting of foreign controlled firms in the USA, finding no differences between tax rates of single-owner and multiple-owner foreign-controlled firms. Harris *et al.* (1993) also support the idea that US ME economic and financial behaviour may be affected by the tax levels of the host country. It is of particular interest that countries are classified as high- or low-tax using the statutory tax rate rather than the effective tax rate.

Grubert (1998) provides a detailed analysis of ME tax reduction policies led by financial choices and dividend distributions. The empirical analysis is conducted on micro data (tax returns) on the main industrial holdings and on about 3500 foreign-controlled firms through inter-company flows. The tax price of financial flows is calculated to verify whether choices are linked to tax parameters, with a positive outcome. Nevertheless changing the tax price of financial flows does not modify the amount of either retained or distributed profits, but only the way in which these flows are repatriated in the home country.

Even though the models on ME economic decisions distinguish between location decisions and decisions on investments and minimisation of the tax burden, there are cases contradicting the previous conclusion. Grubert and Slemrod (1998, p. 365), analysing ways and reasons for US investments in Puerto Rico, argue that 'the results suggest that income shifting advantages are the predominant reason for U.S. investment in Puerto Rico'.

More recently Jog and Tang (2001) have studied profit shifting in Canada as a consequence of the US tax reforms of the 1980s. It is argued that US subsidiaries in Canada have reacted by increasing leverage and consequently reducing taxes paid in Canada. Empirical analysis has shown that domestic companies make generous use of debt tax shields, the relation between the Canadian rates and the US rates affects the choice of debt for companies having connections abroad, the more lucrative enterprises have greater leverage (given the smaller risk implied) and leverage seems to be positively linked to size measured by the total of all activities.

It can be concluded that the empirical analysis conducted on profit shifting, in all but a few cases, shows that foreign-controlled companies behave irregularly, with various entities connected with conduct of tax avoidance. One unresolved issue remains the problem of identifying with certainty which channels are used in order to carry out such behaviour. An economic analysis based on traditional balance sheet data is not able to provide an answer to this question.

AN EMPIRICAL ANALYSIS OF THE TEXTILE SECTOR

Objective of the Analysis

The objective of the analysis is to verify whether ME incur an implicit tax burden that is lower than the tax burden of companies not having foreign associates, through eventual procedures of international allocation of group profit. Therefore this study only considers the tax burden relative to taxes levied by the host country: thus, a first level of taxation is involved[13] which does not take into consideration any interaction between the different tax systems and the aggregate tax debt on invested capital in any given country. In this phase, our objective is not to assess the choice of the location of the company based on differentials of tax rates on an international level, but rather to verify, indirectly, the effects of the practice of profit shifting carried out by already established companies in light of the differentials of taxation with the countries of the associated foreign companies. Indeed we consider that this is a relevant aspect both from a perspective of internal competition in the same market – and in particular between domestic and multinational companies operating in a certain country – and from a perspective of adherence to the benefit principle, connected to the right of the host country to levy a corporation tax on the foreign owned company.

The empirical analysis carried out on the textile sector for Italy is meant to provide a contribution to the verification of eventual tax planning conducted by ME having consequences on competitivity of companies operating exclusively on the domestic market (with potential effects of unfair and harmful tax competition). In fact, we consider that, from this perspective, the effect of tax factors may arise, not so much because of factors of location of investments but owing to factors of location of the tax bases. The analysis was limited to the textile sector, but should be extended to other sectors to further observe differential economic behaviour, attributable to fiscal factors, within the sphere of the same ME.

Tax Indicators

The choice of tax indicators is crucial to conceptualising and verifying empirically the relation between ME and tax systems. Tax burdens may indeed be calculated with different tools and for different aims.

The first rather obvious measure to consider is the statutory tax rate (STR), which gives a general idea of national tax policies. STR is widely used in international comparison; however, it does not give a reliable measure of the actual tax burden, especially in international and intersectoral contexts, as the

actual tax burden closely depends on the definition of the tax base, which is far from being harmonised among countries.

For this reason, STR is often replaced by effective tax rates (ETR), that is tax indicators that take into account how the tax base is determined and whether tax laws allow tax incentives. Within ETR it is then possible to distinguish between ex post ETR (backward-looking) and ex ante ETR (forward-looking). The first group, henceforth ex post implicit tax rates (EPITR), includes all those indicators calculated as the ratio between taxes actually paid and a reference economic aggregate (profits, capital, value added and so on).[14] Using taxes actually paid allows the analyst to incorporate the specific rules underlying the determination of a tax base. Average tax rates obtained in this manner measure the size of the potential retained profit that is subtracted from the firm. In this perspective, they are useful when the aim of the analysis is to analyse the income effects of taxation and compare taxation levels of different groups of firms.

The second group, ex ante marginal tax rates (EAMTR), is of a forward-looking nature. It measures a theoretical impact starting from tax laws applicable to a specific investment project at the margin, that is not producing extra profits.[15] This kind of gauge is useful to understand how tax systems affect firms' decisions as well as to spot non-neutralities of tax systems among different alternative investments. For this reason, the indicator is usually expressed as a ratio with the difference between gross and net return as the numerator and the gross return as the denominator. EAMTR are calculated for different types of investment (for example, machinery and intangible assets) and different financing sources (self-financing, debt issues and so on).

Devereux and Griffith (1998) have developed this approach by building a methodology to calculate theoretical tax rates for inframarginal investments which is referred to as the 'average effective marginal tax rates' (EAVMTR).[16] Conceptual differences in indicators imply differences in results. The implicit tax rate (calculated by using a proxy for gross profits as the denominator) is indeed usually lower but not very far from the statutory rate, yet the quality of the indicator strongly depends on the quality of the denominator. Marginal tax rates, instead, may be very far from statutory and average tax rates, since it is possible for them to be negative.

Things may become more complicated when those same measures are applied in an international context. Calculation of tax burden needs not only to look at statutory rates in the domestic country but possibly to consider also withholding taxes applied by the host country, or compensation mechanisms applied by the home country for taxes paid abroad. To provide an example, the STR in Italy has been one of the highest in developed countries since the early 1990s and remains so, even after various reforms. Looking at the marginal tax rates, however, the Italian situation is one of the most appealing

in Europe. A recent contribution by the European Commission (2001) identifies Italy as one of the countries in which the cost of capital for a foreign subsidiary is lower (standing at about 5 per cent instead of an average of 6 per cent).

In this chapter the ex post implicit tax rate indicator has been chosen, given the specific interest in pinpointing behaviour aimed at minimising tax burdens and at the difference in the fiscal burden borne by only domestic companies as opposed to those having foreign associates.

Data Source

The AIDA data set[17] (containing 170 000 non-financial corporations' balance sheets with total revenue above one million Euros) is the main database for this study. The data set is not a representative sample, but it gives a good coverage of macroeconomic aggregates for medium and large firms. It covers a period from 1994 to 2000. Our specific subset of data is drawn from 1998, gathering balance sheets and additional external information concerning nationality of majority shareholders and subsidiaries. Corporations included in this subset satisfactorily approximate some figures as calculated in the National Accounts (NA) as well as tax revenue from (non-financial) corporations. Value added from non-financial firms is, in the subset, equal to about 50.3 per cent from NA, while a similar coverage is observed for the labour cost (61 per cent). Even more satisfactory is the comparison with data from the tax authority (TA) reported in Table 5.2.

Firms represent only 20 per cent of the total number of non-financial corporations, whereas about 30 per cent of business comes from the agriculture and manufacturing sectors, as registered by the tax authority.[18] Both earnings before taxes and taxes (corporation tax, IRPEG and regional tax on

Table 5.2 Accounting variables (AIDA data set) as percentage of tax authority data (1998)

		Assets	Turnover	Cost of employees	Value added	Income before taxes	Income taxes
Non-financial corporations	Number	20.4	20.4	20.4	20.4	20.4	20.4
	Amount	67.7	83.9	84.8	78.6	74.4	75.6
Agriculture and manufacturing	Number	28.6	28.6	28.6	28.6	28.6	28.6
	Amount	81.1	85.1	82.2	79.5	85.2	86.1

Source: Authors's calculations on AIDA and tax authority data.

production activity, IRAP) in AIDA amount to 75 per cent and 85 per cent of the figures drawn from income tax returns for non-financial corporations and agriculture and manufacturing, respectively. This supports the idea that corporation tax (liabilities) payments are highly concentrated in Italy.[19] The AMADEUS data set is also used to compare Italian data with data from other countries.[20]

Building the Data Set

In this chapter, we use a micro data set of firms, in order to exploit all the information available in firms' budgets, while at the same time introducing heterogeneity and differentiation between foreign-owned firms and domestic firms located in the same country. This scheme is relatively new among empirical works that try to investigate the relation between ME economic choices and the tax policy of various countries, as existing works are usually more concentrated on the locational choice of companies. The year 1998 is the base of the analysis. For some firms it has also been possible to merge specific elaborations from tax authority data. Data collected from analysing shareholders have allowed us to separate domestic companies (DC) from companies located in Italy but controlled by foreign corporations (FCC), representing inward direct investments. With regards to domestic firms, Italian corporations controlling foreign corporations (ICC) have been separated as well. We analyse only one sector, textile and clothing.[21] This choice is due to the strategic position of this sector in the Italian economy and its high propensity to internationalise.[22] Moreover we have been able to avoid differences in tax burdens due both to differences in the production function and to sector-specific tax rules (for example, tax incentives).[23]

The database has also allowed us to identify firms with at least one foreign shareholder and/or a direct investment in a firm located abroad with a share equal to one-third of the capital. This criterion corresponds to the identification of direct shareholders (or first beneficiary) and not to the identification of the overall structure of the group (that would adhere to the criterion of the last beneficiary).[24] Nevertheless it has been useful to classify as 'multinational' also those firms that, even though lacking a direct link with foreign firms, are at least 50 per cent owned by either an FCC or an ICC. To classify multinational enterprises (FCCs and ICCs), the ownership threshold has been set at 25 per cent, lower than the majority percentage of 50 per cent used in other studies,[25] but well above the limit used to identify direct investment (10 per cent). For our purposes it has been necessary to set a participation threshold that would imply an interest in coordinating tax planning among firms, taking into account the cost of repatriating profits. Finally we apply the same percentage set by the parent–subsidiary directive. For example, multinational

groups may be organised in a simple way, with one holding located in Italy that owns a subsidiary located, for instance, in Germany, or in a more complex way, with various residence countries. In the first case, there will be an incentive for tax minimisation stemming from the comparison of only two tax systems. In the second case, any potential shareholder in any country will try to minimise its own tax burden according to tax laws regulating cross-border investment flows.

AN OVERVIEW OF THE TEXTILE AND CLOTHING SECTOR

The textile and clothing sector covered 7891 firms in 1998[26] and 159 of them have consolidated balance sheets. However these latter have not been considered in order to preserve information that would have been lost by using the consolidated accounting variables (for example, the choice of financing sources).[27] At the same time, it is worth noting that the consolidated tax return has no tax relevance in Italy;[28] this is why the analysis has been restricted to non-consolidated balance sheets. A further 1844 firms have been excluded owing to incomplete balance sheets or lack of consistency between budget items. The number of firms considered in the analysis is therefore 6047, out of which 5799 are domestic firms. Of the 248 multinationals, 80 are FCCs and 168 are ICCs. Table 5.3 summarises the main characteristics of the sample.

As information on shareholdings from the AIDA data set is incomplete, it has been necessary to integrate data with other databases: R&S, Business International and Mediocredito Centrale. However the identification of countries of residence of both controlling and controlled firms has not been possible for all firms (Table 5.4).

Table 5.3 Data set for textile and clothing (1998)

Total number of corporations	7 891
Consolidated budget	159
Not included	1 844
Included	6 047
National (DC)	5 799
Multinational enterprises	248
foreign controlled (FCC)	80
Italian controlled (ICC)	168

Source: Author's calculations.

Table 5.4 Localisation of multinational companies

ICC (Subsidiaries)			FCC (Parent company)		
Romania	52	31.0%	USA	14	17.5%
France	19	11.3%	Germany	10	12.5%
Germany	10	6.0%	UK	9	11.3%
UK	6	3.6%	France	8	10.0%
Hungary	2	1.2%	Japan	4	5.0%
Total	168	100.0%	Total	80	100.0%

Source: Author's calculations.

It is worth noting that, even though the investigation is carried out on a data set including only medium and large firms, their distribution is comparable with that of other studies. Statistics in the Cominotti *et al.* report (1999), for example, show 236 companies located abroad with Italian participation, out of which 166 are holders, and 63 located in Italy with foreign participation, out of which 49 are holders in the textile and clothing sector.

Among the 6047 firms of the sample, more than 40 per cent have a total revenue (turnover) below 2.5 million Euros (mainly domestic firms), while about 80 per cent of ICCs and FCCs have a total revenue above 5 million Euros. This fact *supports the common belief that international firms have higher total revenues.* Table 5.5 illustrates the distribution of firms by revenue classes.

With regard to employment, on average, domestic firms have a significantly lower number of employees (38 units) compared with ME (239 and 148 units for ICC and FCC, respectively).[29] Table 5.6 also reveals a different level of productivity between domestic firms and ME. In particular, the share of the value added per employee of the former is equal to about 70 per cent of those observed for ME. Accordingly we can also observe higher average wages and salaries in ME (in particular for FCC) due to the influence of foreign standards.

PROFITABILITY AND TAX BURDEN

The empirical literature shows that multinational corporations usually have lower profit rates and tax payment in comparison with domestic companies. In Italy, our data support this finding – profit indicators (typically ROE and ROI) are lower than for domestic firms, as illustrated by the sample values of

Table 5.5 Number of companies, by turnover class (percentage)

	Total revenue classes (millions of Euros)					
	0–1.5	1.5–2.5	2.5–5	5–25	25 and over	Total
DC						
% row	27.8	19.1	23.1	26.5	3.6	100.0
% column	99.4	99.4	98.0	93.2	68.9	95.9
ICC						
% row	3.0	2.4	10.7	44.6	39.3	100.0
% column	0.3	0.4	1.3	4.6	22.1	2.8
FCC						
% row	6.1	3.7	12.2	45.1	32.9	100.0
% column	0.3	0.3	0.7	2.2	9.0	1.4
Total						
% row	26.8	18.4	22.6	27.2	4.9	100.0
% column	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations.

Table 5.6 Productivity index and average cost per employee (Euros, 000s)

	Value added per employee	Average cost per employee
DC	41 934	25 107
ICC	47 395	25 983
FCC	63 954	32 686

Note: Average cost per employee = total labour cost/number of employees; value added per employee = value added/number of employees.

Source: Author's calculations.

ROE and ROI of Table 5.7. It can also be observed that ROI (the first column), even though higher for domestic firms, is relatively more homogeneous than returns on equity, still higher for domestic firms.

The dispersion of these two indices is lower than what is observed for other countries, yet it might be interpreted as a signal of profit-shifting behaviour of multinational firms, showing a lower return due to tax burden minimisation. This difference is in fact maintained throughout the period 1994–2000 (Table 5.8)[30] and it does not seem to depend on the age of the

Table 5.7 Profitability indices: ROI and ROE (1998)

	Return on investment	Return on equity
DC	5.06	2.77
ICC	4.84	1.84
FCC	4.56	2.08
Total	5.04	2.73

Note: ROE = profit or loss after taxation/net equity *100; ROI = operating profit (or loss)/total assets *100.

Source: AIDA data.

*Table 5.8 Return on equity (1994–2000)**

	1994	1995	1996	1997	1998	1999	2000
DC	12.2	12.0	6.8	5.2	2.8	3.7	3.5
ICC	9.2	12.9	5.5	4.7	1.8	0.5	3.5
FCC	–3.8	8.5	5.9	1.4	1.8	3.0	–1.0
Total	11.9	12.0	6.7	5.1	2.7	3.6	3.5

Note: * ROE is calculated on panel data for the period 1994–2000.

Source: AIDA data.

multinational firm (still 'not mature') or on a substantial merger or acquisition activity, at least in the period observed in the analysis.[31]

Lower profitability has a consequence in terms of tax liability. This latter is quantified by the implicit tax rate (following the micro backward-looking methodology) defined as the ratio of taxes to total assets. Both taxes and total assets are those relevant for financial reporting and not for tax purposes. On average, taxes paid by domestic firms are higher than those paid by ICCs and FCCs (Table 5.9). This result is marked with respect to the choice of alternative denominators; using sales, conclusions are reinforced further owing to the fact that capital per sales unit is lower in both FCCs and ICCs.[32]

Again in Table 5.9, some interesting observations can be made by looking at the percentage of companies with positive or negative income (profit or loss).[33] It is worth noting that, in our sample, the higher share of firms operating at a loss belongs to FCC (29 per cent), yet the difference when taking the share of domestic firms (22 per cent) does not seem to be a

Table 5.9 Income taxes as a percentage of total assets and sales*

	Taxes/assets	Taxes/sales	Number of companies making a loss	Number of companies in profit
DC	2.83	2.27	22.0	78.0
ICC	2.32	1.96	17.3	82.7
FCC	2.29	1.79	29.6	70.4

Note: * Income taxes are those in the balance sheet and they include the corporation tax (IRPEG) and the regional tax on production activity (IRAP).

Source: Author's calculations.

compelling justification for overall tax rate differences. Finally the ICC is the group with the higher share of firms operating at a profit (83 per cent).

It should also be considered that the tax rate of any firm has been given the same weight in defining the mean average tax rate. Alternatively, as in other studies, we could have calculated the average tax rate as the ratio between the total amount of taxes paid and the total assets (or turnover). In this case, an implicit tax rate is actually computed for each subsample of companies, which is consequently considered as a representative company. This tax indicator smooths extreme values when averages are calculated.[34] Results, not reported here, do not change when using total assets as the denominator, while they weaken when using turnover. In this latter case, there is some evidence illustrating that ICC would pay more than domestic firms, while for FCC a lower tax burden would still emerge.

In spite of the fact that our results are similar to other empirical analyses, we can observe a wide range of implicit tax rates across companies in the same subsample,[35] which is typical in accounting data. To this purpose, we run two statistical tests: the Levene Test on variance homogeneity and the T-test on differences in means (Table 5.10). As a first step, we compare the means of implicit tax rates attached to domestic and multinational companies (adding FCC and ICC). The upper part of the table shows basic statistics on tax notes for DC and the new NF group (FCC plus ICC). In the bottom part the Levene test accepts homogeneity of variances for tax-sales indicators and rejects homogeneity for tax-asset indicators. The difference among average implicit tax rates is statistically significant (see T-test in the lower part of the table) only when total assets is used as the denominator (see significance level). When using turnover, instead, the difference is not significant. A likely interpretation lies in the wider range of extreme values of the corresponding

Table 5.10 Statistical tests on differences in means: T-test and Levene test

		Mean	Standard deviation	Mean Standard error							
Taxes/sales	MC=FCC+ICC	1.9050	1.8519	0.1183							
	DC	2.2709	303.9931	4.0142							
Taxes/assets	MC=FCC+ICC	2.3074	2.6644	0.1692							
	DC	2.8272	3.4060								
		Levene test on variance homogeneity			T-test on mean homogeneity						
		F	Sign.	t	df	Sign (2-code)	Differences in means	Differences in standard error	Confidence interval (at 95%) lower	higher
Taxes/sales	Homogeneous variances	0.2890	0.5910	–0.3080	5978.00	0.7580	–5.9797	19.4230	–44.0558	32.0963
	Variances not homogeneous			–1.4890	5743.87	0.1370	–5.9797	4.0159	–13.8525	1.8930
Taxes/assets	Homogeneous variances	5.5040	0.0190	–2.3730	6045.00	0.0180	–0.5199	0.2191	–0.9494	
	Variances not homogeneous			–2.9710	282.67	0.0030	–0.5199	0.1750	–0.8643	–0.1754

implicit tax rates. The ANOVA test leads to the same conclusion, even though FCCs and ICCs are separately considered.

Higher tax payments for DC are constant over the period 1998–2000, even if evidence from other countries is stronger[36] (Table 5.11.)

*Table 5.11 Income taxes as a percentage of total assets (1998–2000)**

	1998	1999	2000
DC	2.8	2.9	2.8
ICC	2.3	2.4	2.3
FCC	2.2	2.2	2.4

Note: * Income taxes are those in the balance sheet and they include the corporation tax (IRPEG) and the regional tax on production activity (IRAP); ratios are calculated on panel data for the period 1994–2000.

Source: Author's calculations.

The same methodology has been used to extend results on the ME behaviour for some other European countries: France, Germany, Romania and the United Kingdom. DCs and MEs (FCC and ICC) are identified for each country. Implicit tax rates, both on assets and on turnover, are higher for domestic controlled firms in all countries, with the corresponding ICC showing the lower tax rate (Table 5.12). Moreover the level of the implicit rates is comparable to other international empirical studies and supports the positions of both Italy as a high tax country and the United Kingdom as a low tax country.

VALIDATION: THE TAX AUTHORITY DATA SET

As is known, taxes resulting from balance sheets might provide an unclear picture of the yearly tax burden. In order to verify whether estimated tax rate levels are meaningful, a restricted data set on domestic and multinational firms from the Italian tax authority is used.[37] Separate tax rates have been calculated for the two most important direct taxes on firms, IRPEG and IRAP. Both of them show a higher variance, compared with our data set, yet findings are confirmed, in that tax rates for multinationals are higher (Table 5.13). Tax differentials are stronger than in our data set if IRPEG and IRAP are taken together, as occurs in accounting data. Results do not change if IRPEG and IRAP are separated.

*Table 5.12 Income taxes as a percentage of total assets and of sales: textile and clothing (1998)**

	France		Germany		United Kingdom		Romania		Italy	
	Taxes/ assets	Taxes/ sales	Taxes/ assets	Taxes/ sales	Taxes/ assets	Taxes/ sales	Taxes/ assets	Taxes/ sales	Taxes/ assets	Taxes/ sales
DC	2.80	2.06	2.54	1.22	1.82	n.a.	3.80	2.42	3.31	2.80
ICC	1.06	1.42	1.45	1.20	1.32	n.a.	2.44	1.65	2.58	2.27
FCC	2.54	1.87	1.08	1.40	1.05	n.a.	2.01	1.06	2.82	2.08

Note: * Income taxes are those in the balance sheet.

Source: Author's calculations on AMADEUS data.

Table 5.13 Taxes (IRPEG and IRAP) as a percentage of total assets and of sales (1998)*

	IRPEG/ sales	IRPEG/ assets	IRPEG+IRAP /sales	IRPEG+IRAP /assets	Companies with loss (%)	Companies in profit (%)
DC	1.33	1.99	2.40	3.50	33.9	66.1
ICC	0.75	0.88	1.68	1.83	21.4	78.6
FCC	0.84	1.24	1.81	2.54	25.0	75.0

Note: * Taxes are those in tax record data (UNICO, 99): the corporation tax (IRPEG) and the regional tax on production activity (IRAP).

Source: Tax authority (1998).

As already argued in the case of balance sheet data, the difference between tax rates is not due to a greater percentage of multinationals with losses. Tax authority data for IRPEG (the corporation tax in Italy) show on average 23.2 per cent of MEs with negative income, lower than numbers recorded for domestic firms (33 per cent), whereas, for IRAP purposes, only 5 per cent of firms have a negative tax base (net value added) and almost every multinational has a positive tax base.

IS THERE PROFIT SHIFTING?

As already observed, tax rate differentials between multinationals and domestic firms are not particularly wide, yet they suggest a more specific analysis on those budget items representing, indirectly, indicators of profit shifting. The cost of raw materials and interest expenses are two factors determining firms' tax base and, consequently, tax burden. For a multinational firm, these factors may become useful tools for tax avoidance through transfer pricing and thin capitalisation. Indirectly, to find a partial justification for a lower tax burden for multinational firms, one can therefore investigate both leverage and vertical integration indicators, this latter proxied by the share of the value added in turnover (Table 5.14).

Given the assumed homogeneity of the production function in the sector, possible deviations among firms might be a signal for a significant influence of tax factors on profits.

Domestic firms show a much higher leverage than the leverage of multinationals. The same is true for the ratio between interest expenses and turnover and for the implicit interest rate. All these variables are instead very close for

Table 5.14 Leverage indices and values added on turnover

	Leverage	Interest/sales	Implicit interest rate	Value added/sales
DC	55.9	11.6	6.3	44.1
ICC	44.5	3.5	4.4	22.1
FCC	46.4	2.9	4.0	24.2
Total	55.5	11.3	6.2	43.2

Notes: Leverage = total payables (excl. tax and to suppliers)/total liabilities; implicit interest rate = financial charges/total payables.

Source: Author's calculation.

FCC and ICC. Since Italy is thought of as a country with relatively high legal corporate tax rates, this result would seem to contradict the initial hypothesis, but it may reflect a distortion of the Italian firms (mainly small and medium-sized firms) towards financial policy favouring debt financing to equity, not merely to take advantage of tax saving. It is therefore impossible to conclude whether debt is used as a profit-shifting tool by multinationals.

Because of 'anomalous' behaviour by domestic firms, the figures for this indicator could also hide possible avoidance activities of multinationals. However, the average value of the leverage ratio is highly differentiated across companies in the same subsample and does not show statistical significance. Furthermore, in 1998, there was no evidence of a different tax strategy carried out by such firms, even though, as a result of the last tax reform, they have reduced tax advantages of using debt, as interest expenses are included in the IRAP tax base. The leverage of the firms considered in the analysis is almost constant between 1994 and 2000.

The tax strategy followed by multinationals could therefore be better investigated through the analysis of transfer pricing practices that, since 1998, have given more advantages in terms of both corporation tax and IRAP through higher costs of raw materials. Initial evidence is linked to the degree of vertical integration of the firm as measured by the ratio between value added and turnover (Table 5.14). In this case, a substantial difference emerges, with multinationals much less integrated than domestic firms.

Quite obviously, the vertical integration index compounds tax and industrial strategies. In this sense, it is only a weak indicator of the possibility that raw materials have higher prices for external-oriented firms. As already noted above, evidence on profit shifting has not yet led to a clear identification of this possibility. It might only occur through the precise identification of the price differentials between internal and market transactions.

VALIDATION: THE SIZE EFFECT

As indicated above, DCs' higher implicit tax burden, compared with that of MEs, may be, to some extent, interpreted as a signal of avoidance behaviour. At this stage, it is important to provide evidence that our results are not biased by the size effect. Recent studies, when comparing small and large companies, have shown different tax burdens. For selected EU countries, including Italy, Nicodème[38] applies a similar methodology to ours, calculating higher implicit tax rates for small companies. In our data set, the DC subsample includes relatively smaller companies than the ME subsample does; as a consequence, our analysis needs to exclude the presence of correlation with a size effect. This explains why the ratios are computed by selecting companies with over 5 million Euros. On the one hand, the outcome validates previous results in terms of implicit tax burden. On the other hand, we found a reranking of the leverage index. Excluding the size effect, the debt level of the ME subsample is higher than the debt level of DCs. It seems confirmed that the DC position in the total data set may be affected by the financial policy of small and medium-sized Italian companies that is biased towards debt, rather than towards equity or retained earnings (Table 5.15).

Table 5.15 Leverage and tax ratios (companies with turnover of more than 5 million Euros)

	Leverage	Taxes/assets	Taxes/sales
DC	40.25	3.01	2.28
ICC	42.39	2.38	2.00
FCC	46.55	2.58	1.93
Total	40.61	2.95	2.24

Source: Author's calculations.

Moreover, to determine the statistical significance of these differences, we undertake statistical tests on differences in means (see F-test and significance level columns in the table). The T-test and the variance analysis reject the null hypothesis of no differences, giving support to the results obtained for the implicit tax burden as well as for the leverage ratio (Table 5.16).

The evidence shown in this chapter highlights the different financial behaviour of multinationals, yet we need to investigate more regarding tax minimisation instruments. A preliminary examination of data considering the country where MEs are located gives evidence of a level of debt and of

Table 5.16 Leverage and tax ratios: analysis of variance (companies with turnover of more than 5 million Euros)

		Sum of squares	df	Means of squares	F	Sig.
Taxes/assets	Between groups	60.375	2	30.187	3.103	0.045
	Within group	18881.289	1941	9.728		
	Total	18942.289	1943			
Leverage	Between groups	2900.812	2	1450.406	3.725	0.024
	Within group	753347.141	1935	389.327		
	Total	756247.953	1937			

Source: Author's calculations.

implicit interest rates related to the country's nominal tax rate differential, such as postulated by the theory on tax planning behaviour.

CONCLUSIONS

The current debate on international corporate taxation is focusing on cross-border discrimination issues driven by complexity and diversity of tax rules, tax incentives and different levels of tax enforcement. This chapter extends the analysis of possible tax discrimination to a domestic level, between firms operating in a single country and firms operating in more than one country (ME). The multiplicity of tax rules and tax planning practices (profit-shifting behaviour, cross-border payments of dividend and so on) affords companies operating at an international level the possibility of legally decreasing or avoiding taxation. This aspect is of great importance, not only from the point of view of the traditional international tax competition literature, but also from the point of view of 'within-border' unfair competition between domestic and ME firms located in the same country. If ME minimise tax burdens, they contribute less than domestic firms to the total tax revenue. Empirical studies have provided some evidence of lower tax burdens for multinational corporations, suggesting tax-motivated income shifting, as in the case of the USA, Canada and the UK.

Empirical evidence supporting discrimination against domestic firms in a sample of 6047 balance sheets of companies registered in Italy and included in the textile and clothing sector has been reported in this chapter by carefully distinguishing among pure domestic companies (DC), foreign-controlled companies (FCC) and Italian companies controlling foreign corporations (ICC).

Using the microeconomic backward-looking approach, implicit corporate tax rates (taxes as a fraction of either sales or assets) have been computed for each firm on individual accounting data. In a first stage, we have compared profit indices (ROE and ROI), finding that, on average, ME profit rates are lower than those of domestic companies, suggesting behaviour aimed at minimising the tax burden. Next we observed higher tax rates for DC over the period 1998–2000, even when expressed in percentage points. Differences are not marked, but the pattern of choosing alternative denominators is noteworthy. Moreover results are confirmed by a restricted data set covering domestic and multinational firms from the Italian tax authority. Compared with our data set, implicit tax rates show even greater differences between DC and ME.

Finally we focused on some balance sheet items representing indicators of profit shifting: leverage and vertical integration indices. The former does not show significant differences across different groups of companies, but it is not sufficient to exclude some practice of thin capitalisation by ME. The second, that is, the value added on sales ratio, suggests that ME are less integrated than domestic companies, signalling the need for further investigation of transfer pricing practices.

NOTES

1. Devereux and Griffith (1998, 2002).
2. See, for example, De Santis and Vicarelli (2001).
3. In the EU, the debate on tax competition was started by the pressure for competition, which, in its turn, derives (for companies in countries with a high level of public expenditure and taxation) from the process of integration of the internal market and the single currency.
4. Countries are obliged to lower tax rates to create competition and to avoid capital leaving the country, which results in corporate income tax rates tending to disappear.
5. In particular, we refer to the well-known contribution of Tiebout (1956), according to which, when electors 'vote with their feet', an optimum market solution is reached for the offer of local public goods.
6. Another line of reasoning, attributed among others to Kehoe (1989), is based on the idea that tax competition could solve the problem of *time consistency* in the taxation of earnings from capital. According to this interpretation, governments benefit from the application of tax rates that are initially lower, thus attracting capital, and later increase said rates once investments have been effected and have lost their mobility (at least in the short term).
7. OECD, (1998).
8. The possibilty of a complete harmonisation of national norms is provided only for indirect tax (art. 93 of the Treaty) 'in the needed proportions so as to ensure the establishing and the functioning of the internal market'.
9. In many countries the adopting of CFC legislation has been an increasingly contentious issue between tax authorities and taxpayers. In addition, the fact that more and more countries are adopting CFC legislation results in an overlapping of tax obligations on companies located in fiscally privileged countries that is difficult to resolve.

10. See Devereux and Griffith (2002) and de Mooji and Ederveen (2001).
11. An analysis of variance of this meta database reveals how the choice of both data and tax indicators has a strong impact on the estimated elasticities.
12. The authors do not, however, find relevant differences in the financing policy and, therefore, in the leverage levels.
13. For an overview of international taxation of capital, see Giannini (1994).
14. Implicit average tax rate can be calculated either on national accounts data or on microeconomic data on individual firms.
15. These indicators have been built following King and Fullerton (1984). Without going into details, it is worth emphasising that the use of this methodology brings with it quite restrictive assumptions, such as perfect competition and the absence of extra profits, to name two of the most striking. For a more detailed explanation, see Martinez Mongay (2000).
16. The 'average' derives from the fact that these indicators are obtained as the average of taxes due on hypothetical investments with different profitability levels.
17. Aida Bureau Van Dijck.
18. In Italy, the number of companies (over 3.5 million units) is higher than the EU average. In this chapter, we are interested in the corporate sector (about 600 000 units) that includes the bulk of multinational companies.
19. In aggregate, corporation tax liability shows the effect of having a high percentage of companies making a loss: during the 1980–98 period this stood on average at more than 50 per cent in each year.
20. The AMADEUS data set includes the balance sheets of large companies (sales over 15 million euros located in the European countries.
21. Following Ateco91codes, sectors 17 and 18.
22. For the recent trends, see Rossetti and Schiattarella (2003).
23. Empirical evidence of differences in tax provisions by sectors has been shown by Nicodème (2002) for selected EU countries.
24. This restriction could be a limit for the analysis of income shifting into the same group (holding group); however, the aim of the chapter is to verify whether ME bear an implicit tax rate lower than DC, considering that they have access to more instruments to avoid taxation.
25. See, for example, Cominotti *et al.* (1999) and OECD (2001b).
26. There are specific difficulties in choosing 1998 as a base year, due to the fact that in the same year a tax reform was started, introducing a dual taxation system (DIT) and Irap. However, this choice has the advantage of providing a reliable data set and some comparability with tax authority data.
27. An opposite choice was made by Grubert *et al.* (1993).
28. Actually, in the law proposal, consolidation for autonomous taxation is a possibility.
29. About 350 firms do not report the number of employees. Average values are therefore conditional.
30. Except for 1995 and 2000, when ROE for ICC is slightly above that of DC.
31. As argued by Grubert *et al.* (1993), frequent acquisitions and mergers would make the actual value of the fixed assets emerge in the total asset, implying an increase of invested capital that could not be found in domestic firms not involved in extraordinary activity.
32. The choice of an appropriate denominator is not an easy task. On the one hand, we need an indicator to take into account the effects of production costs and financial items (mainly interest expenses); on the other hand, the use of assets and sales implies that rates of returns on assets and the true profit margin, respectively, should be equalised across companies.
33. To this purpose the share of firms operating at a loss is of some relevance as IRAP is a tax with a wider tax base than competition tax.
34. In particular, this average indicator is used when negative value can compensate for positive value.
35. For FCC, the highest tax rates recorded are 13 per cent, with turnover as denominator, and 15 per cent, with total assets as denominator. About 13 per cent of the firms have a zero

rate and more than 29 per cent of these firms have negative earnings before taxes. It is worth noting that tax rates may be positive even with losses because they include IRAP, which is a tax on the net value added. Moreover only one firm (using turnover) and five firms (using total assets) have a tax rate greater than 7 per cent. Without these extreme cases, tax rates decrease from 1.8 to 1.6 per cent (turnover) and from 2.3 to 1.8 per cent (assets). Analogous results are observed for ICC, even though the percentage of firms with zero rate is now lower, partly as a consequence of the smaller number of firms with negative earnings before taxes (17.3 per cent). Here the highest tax rates are not higher than 8 per cent (with turnover) and 11 per cent (with total assets), while a particular concentration is observed around 3 per cent (more than 80 per cent of firms). The situation of domestic firms is more articulated, because a substantial percentage of these show losses (even though fewer than FCC) and, consequently, zero tax rates (about 7 per cent). On the other hand, there is a high number of tax rates within 3 and 50 per cent, regardless of the denominator used (turnover or assets).

36. Grubert *et al.* (1993) show more than three percentage points of distance between domestic and multinational corporations in the USA.
37. The tax authority sample includes 350 companies for textile and clothing that are also included in our sample.
38. Nicodème (2002).

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John-ren Chen is Professor of Economic Theory and Econometrics in the Department of Economic Theory, Policy and History and Director of the Centre for the Study of International Institutions at the University of Innsbruck, Austria.

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Glensanda House, Montpellier Parade
Cheltenham, Glos, GL50 1UA, UK
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Email: info@e-elgar.co.uk

136 West Street, Suite 202, Northampton, MA 01060, USA
Tel: +1 413 584 5551 Fax: +1 413 584 9933
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ISBN 1-84376-875-5

9 781843 768753